

Mononucleosomes H2A Ubiquityl, Recombinant Human, Biotinylated

Catalog No. 16-0020
Lot No. 17209001
Pack Size 50 µg



Product Description:

Produced in collaboration with Boston Biochem®, this mononucleosome is assembled from recombinant human histones expressed in *E. coli* (two each of histones H2A, H2B, H3 and H4. Accession numbers: H2A-P04908; H2B-O60814; H3.1-P68431; H4-P62805) wrapped by 147 base pairs of 601 positioning sequence DNA. There is a 5' biotin-TEG group on the DNA. Approximately 50% of the nucleosomes are mono-ubiquitinated on histone H2A lysine 118, while the other 50% are mono-ubiquitinated on both histone H2A lysine 118 and histone H2A lysine 119 (multi-mono-ubiquitinated). Polycomb Repressive Complex 1 (PRC1) is a multi-subunit protein complex that is essential for maintaining epigenetic repression of key developmental loci in embryonic stem cells (ESCs). PRC1 proteins BMI1, RNF2 and others function as a Ubiquitin E3 ligase that specifically mono-ubiquitinates histone H2A (H2AK119ub1) which effects chromatin remodeling in a heritably transmissible manner. BMI1 activity has also been reported as necessary for constitutive heterochromatin formation in mammalian somatic cells.

Formulation:

Mononucleosomes H2A Ubiquityl, Recombinant Human, Biotinylated (27.3 µg protein weight, 50 µg total weight) in 43.9 µl of 25 mM Tris pH 7.5, 150 mM NaCl, 2 mM DTT, 20% glycerol. Molarity = 5.02 µmolar. MW = 227,000 Da.

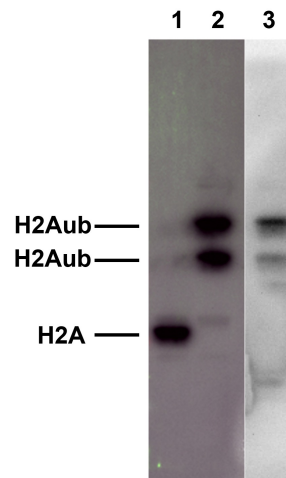
Storage and Stability:

Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid multiple freeze/thaws.

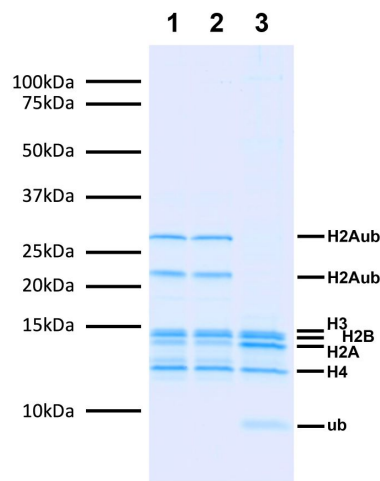
Application Notes:

Mononucleosomes H2A Ubiquityl, Recombinant Human, Biotinylated are useful as substrates in deubiquitylation (Dub) assays and for inhibitor screening.

References Using this Product:

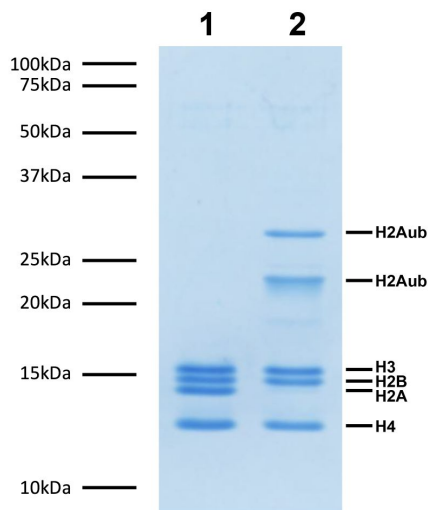


Western Blot Data: Western blot analysis of Mononucleosomes H2A ubiquityl, Recombinant Human, Biotinylated, probed with either an antibody to histone H2A (left panel, lanes 1 and 2) or an anti-ubiquitin antibody (right panel, lane 3). Lane 1 contains the unmodified recombinant nucleosome, Lanes 2 and 3 contain the H2A-ubiquitylated nucleosome.



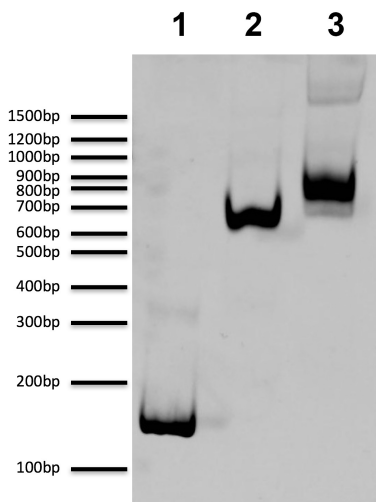
Deubiquitylation Assay Data: Mononucleosomes H2A Ubiquityl, Recombinant Human, Biotinylated (1 µg) were employed in a deubiquitylation (Dub) assay using no enzyme (Lane 1), USP5 (Lane 2) or USP16 (Lane 3) and run on an SDS PAGE gel. Only the USP16-treated sample shows the elimination of H2Aub bands, the appearance of monoubiquitin (ub) and the reappearance of H2A.

This product is for *in vitro* research use only and is not intended for use in humans or animals.



Protein Gel Data: Coomassie stained PAGE gel of proteins in Mononucleosomes H2A ubiquityl, Recombinant Human, Biotinylated (1 μ g) to demonstrate the purity of the histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2Aub, H2B, H3 and H4) are indicated.

Lane 1: Unmodified recombinant nucleosomes. **Lane 2:** Mononucleosomes H2A ubiquityl, Recombinant Human, Biotinylated.



DNA Gel Data: Mononucleosomes H2A ubiquityl, Recombinant Human, Biotinylated run on a native PAGE gel and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA extracted from nucleosomes (200 ng). **Lane 2:** Intact unmodified recombinant nucleosomes (400 ng). **Lane 3:** Mononucleosomes H2A ubiquityl, Recombinant Human, Biotinylated (400 ng).

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